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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 08/841,318 | 04/30/1997 | KOUKI HATAKEYAMA | 1259-0191P-S | 3061 |

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| EXAMINER | |
|---|---|
| GILES, NICHOLAS G | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2622 | |

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 08/841,318 | HATAKEYAMA, KOUKI | |
| | Examiner | Art Unit | |
| | Nicholas G. Giles | 2622 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 April 1997* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 07/19/2006 have been fully considered but they are not persuasive.

Applicant argues that only blue and red signals are supplied to white balance circuits and that Kobayashi fails to supply the green signal to the white balance circuits, thus not meeting the limitations of the claim. Examiner points out that nowhere in the claim is it required to send all of the signals or alternatively the green signal to the white balance circuits.

Applicant also argues that the integration circuit limitation is not met in Kobayashi. Examiner pointed out that in the last office action 24:33-25:47 and Figs. 28-30 were cited as covering this limitation. Applicant asks for a clearer citation of the material that covers this limitation. Examiner maintains that the cited areas cover the limitation, but points out that formation of the R-G and B-G signals are the integration and are detected by the white balance circuits for white balance correction.

Applicant further argues that Sasaki fails to disclose a white balance circuit. Examiner points to 83 in Fig. 8 where the white balance circuits can be seen.

2. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does

not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

3. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

~~5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.~~

6. Claims **1-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Iura et al. (U.S. Patent No. 5,847,756) in view of Sasaki (U.S. Patent No. 4,837,628) in further view of Sugihara (U.S. Patent No. 4,054,915) in further view of Suh (U.S. Patent No. 5,508,739).

Regarding claim **1**, Iura discloses a color video camera (see figures 2 and 3) with motion and still modes of operation with electronic display of motion and still pictures (depression of a shutter button: col. 12, lines 1-18) where a motion picture is interlaced two line additive scanned image data and a still picture also represents a form a

interlace scanning where each field output of all even lines and all the odd line forms the still image data (one frame; col. 9, lines 1-51). Iura also discloses the still image data level is dependent upon the motion image data in the preceding motion image period by setting the exposure period for the still image data to be from 1.5 to 3 time as long as the motion image exposure period (col. 4, lines 42-62 and col. 5, lines 5-15 and col. 14, lines 7-19). As seen in figure 10, the still image mode takes at least 1.5 times as long as the movie mode(see col. 14). Since Iura system is configured to collect charge that is 1.5 to 3 times the amount in the movie mode, then clearly the system is capable of doubling the exposure. Therefore, Iura teaches motion and still imaging for displaying images which mixed readouts charges in the motion mode and outputs all charges in the still mode (may also store still images). However, Iura fails to specifically discloses the claimed color filter arrangement, interlaced "field shifting" additive readout, and outputting all pixel data in line sequential scanning. Although, a motion and still mode color camera which records still images and implement an art equivalent to line sequential scanning is well known in the art as taught by Sasaki.

In the same field of endeavor, Sasaki discloses upon a shutter release operation the still is recorded (see abstract and col. 6, lines 50- 55) where Sasaki also reads out all the pixel signal in the still image mode also by driving an interline transfer CCD to output each pixel in the array. This driving is equivalent to sequential scanning of each line. Thus it would have been obvious to one of ordinary skill in the art that at the time the invention was made to modify Iura, as taught by Sasaki, such that a motion/still mode camera can store selected still image from the motion sequence for user

selective/creative use at anytime. Additionally, Iura and Sasaki teach providing a high quality still image by using all the image data in the array but output the all the data using different driving method, and it would appear to be obvious to any one of ordinary skill in the art that either field readouts or line sequential scanning of all pixel charges would produce a quality still image, and the inclusion of either method is matter of design choice.

Iura and Sasaki, as stated above, disclose color imaging systems. However, neither teaches using a stripe color filter arrangement and interlaced claimed field shifting method. Although, it is well known in the art to include these features as taught by Sugihara.

Sugihara discloses a color camera which incorporates a column stripe color filter (see figure 3). Sugihara also discloses several interlace method used in color camera. One method comprises averaging signals of two adjacent lines of the same color during an even field (col. 9, lines 1-14). Another method comprises a two line additive readout which uses the same pair of lines each field (col. 10, lines 49-67). And an interlace method, where different lines are added in each field (col. II, lines 15-65) which is the claimed method. Thus, it would have been obvious to one of ordinary skill in the art to modify, Iura and Sasaki to use a stripe color filter, as taught by Sugihara, as such processing of color signals from column stripe filters is available to color cameras and provide a good resolution image. It would have been further, obvious to implement the claimed interlace method taught by Sugihara, into the systems of Iura and Sasaki, as it does not require any significant upgrade to processing circuitry that could increase the

cost of the system and is an improved interlaced color method, as taught by Sugihara. Further, it would have been obvious to use the interlace method claimed on a column striped CCD, as the Examiner takes Official Notice that interlace scanned CCD with color stripe filters exist in the art. Also same color additive interlacing is known in the art (and also taught by Sugihara) which can also be done in remapping signal processors or other signal processors. Therefore, it would also not require a significant upgrade in the color signal processing circuitry and requires on routine skill in the art to implement a color imaging system incorporating a stripe filter to output a picture with good resolution.

Iura et al, Sasaki, and Sugihara are silent with regards to subjecting a white balance process to the field image signals in a white balance circuit and outputting integrated vales of the field images from the white balance circuit in an integrated circuit and further detecting the signal levels of the field image signals based on the integrated signals. Suh discloses:

> Subjecting a white balance process to the field image signals consisting of separated red, blue, and green signals in a white balance circuit, the white balance process adjusting the signal levels of a blue image signal and a red image signal to a signal level of a green image signal so that a ratio of blue to green and a ratio of red to green is maintained constant and outputting integrated vales of the field images from the white balance circuit in an integrated circuit and further detecting

the signal levels of the field image signals based on the integrated signals (6:20-28 and Fig. 4).

An advantage to subjecting a white balance process to the field image signals in a white balance circuit and outputting integrated vales of the field images from the white balance circuit in an integrated circuit and further detecting the signal levels of the field image signals based on the integrated signals in order to maintain a constant ratio between red and green and between blue and green is that image signals can be properly adjusted to eliminate a decoloring phenomenon and a poor primary color display which occur when an automatic white-balance adjusting operation is performed by a conventional method as Suh discloses in 7:18-23. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Iura's electronic camera control method modified by Iura, Sasaki, and Sugihara further modified by Suh to include subjecting a white balance process to the field image signals in a white balance circuit and outputting integrated vales of the field images from the white balance circuit in an integrated circuit and further detecting the signal levels of the field image signals based on the integrated signals in order to maintain a constant ratio between red and green and between blue and green.

Sasaki further discloses:

> Subjecting a gradation correction in a gamma circuit and displaying a frame of the moving picture based on the field image signals which are output from the gamma circuit (7:26-46 and Fig. 8).

An advantage to subjecting a gradation correction in a gamma circuit and displaying a frame of the moving picture based on the field image signals which are output from the gamma circuit is that a CRT can be used to display the image signals properly, whereas if the gamma circuit was not included then a LCD would be used to display the image signal properly. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Iura's electronic camera control method further modified by Sasaki to include a gamma circuit for image signal correction.

As for claim **2**, see Examiner notes in claim 1.

As for claim **3**, see Examiner notes in claim 2. Addition, Iura teaches range is from 1.5 to 3 times the exposure (see cited columns in claim 1).

As for claim **4**, Iura discloses changing the exposure in an embodiment. Iura also teaches that when image data level is to be changed, the gain of an amplifier and/or the exposure time is adjusted (col. 3, lines 10-15). Thus it would have been obvious to one of ordinary skill in the art that instead of doubling the exposure time, the gain of the amplifier for the color signals are doubled to increase the signal.

As for claim **5**, see Examiner notes in claim 1. In addition, Iura discloses an embodiment were the motion image charge storage time is inherently updated because the CCD has an electronic shutter component (col. 15, lines 15-45 and col. 17, lines 1-15).

As for claim **6**, see Examiner's notes in claim 5. In addition, Iura gives an example in col. 15, the exposure time of the still is three times as long. However, the exposure range is 1.5 to three times as long which means it can be twice as long.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas G. Giles whose telephone number is (571) 272-2824. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc - Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NGG

NGOC-YEN VU
SUPERVISORY PATENT EXAMINER